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E7.2-10316

CR-129565

N715 HC \$325

CALIFORNIA COAST NEARSHORE PROCESSES STUDY
ERTS-A EXPERIMENT #088

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Principal Investigator, User ID #DE324
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San Francisco, California 94102

(E72-10316) - CALIFORNIA COAST NEARSHORE PROCESSES STUDY Progress Report, 1 Sep. - 31 Oct. 1972 D.M. Pirie (Corps of Engineers, San Francisco, Calif.) 31 Oct. 1972 21 p	N73-13365 Unclas CSCL 08C G3/13 00316
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October 31, 1972

Type I Progress Report for Period September 1 to October 31, 1972

Prepared for

GODDARD SPACE FLIGHT CENTER
Greenbelt, Maryland 20771

TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle CALIFORNIA COAST NEARSHORE PROCESSES STUDY		5. Report Date 31 October 1972	
		6. Performing Organization Code	
7. Author(s) PIRIE, DOUGLAS M., DE324		8. Performing Organization Report No. ERTS-1-I-1	
9. Performing Organization Name and Address U.S. Army Engineer District, San Francisco 100 McAllister Street San Francisco, California 94102		10. Work Unit No.	
		11. Contract or Grant No. S-70257-AG	
12. Sponsoring Agency Name and Address Mr. Art Fihelly, Code 430 Technical Monitor Goddard Space Flight Center Greenbelt, Maryland 20771		13. Type of Report and Period Covered ERTS TYPE I 1 Sep - 31 Oct, 1972	
		14. Sponsoring Agency Code	
15. Supplementary Notes Prepared in cooperation with Earth Resources Operations, North American Rockwell Corporation, Downey, California.			
16. Abstract This Type I report contains a resume of the accomplishments of the California Coast Nearshore Processes Study for the period 1 September thru 31 October 1972. Due to delays in receipt of precision ERTS imagery, little analysis of data has been accomplished. However, ground truth teams, underflight test cells and flightlines, and experimental procedures have been established. Ground truth data have been obtained and are available for the coast of California and the first underflight is scheduled for December 1972.			
17. Key Words (Selected by Author(s)) Coastal Processes Coastal Currents Sediment Transport		18. Distribution Statement	
19. Security Classif. (of this report) UNCLASSIFIED	20. Security Classif. (of this page) UNCLASSIFIED	21. No. of Pages 21	22. Price* \$ 3.25

PROGRESS REPORT TYPE I, NO. I,
CALIFORNIA COAST NEARSHORE
PROCESSES STUDY

1. OBJECTIVES OF STUDY

Multiple elements under the broad topic of nearshore processes will be studied with airborne and spaceborne sensor data coincident with sea truth. These elements include (1) nearshore currents, (2) estuarine flushing, (3) season river discharges, and (4) nearshore sediment dispersion. These processes will be studied primarily along the central and southern California coast. Sophisticated data processing techniques will be utilized to obtain the maximum information from available data, and to provide correlation and comparison when possible.

2. WORK PERFORMED DURING REPORTING PERIOD

Based on bulk imagery received, four test cells were established within the 088 sites. These cells include offshore San Francisco, Monterey Bay, Santa Barbara Channel and San Pedro Channel. Ground truth for the coastal zone for one flight (Inclosure 1) is presented as an example of types of data obtained. In addition to this data, 5,000 and 10,000 foot aircraft visible and thermal data are available for analysis, but are awaiting precision photographic imagery of the ERTS-1 overflight. Two aircraft flights for the December ERTS pass have been planned with coordination between the Corps of Engineers, NASA/Houston, North American Rockwell Corporation and the various ground truth teams.

3. SCHEDULE

The only problem affecting the schedule is the delay of precision imagery required for processing and analysis.

4. WORK PROGRESS

Work progress has been hampered by lack of adequate imagery and has forced the investigators to transfer the primary analytical functions from photo manipulation to a combination of photo and digital tape systems using algebraic functioning.

5. RELIABILITY

No imput at this time.

6. FUNDS

As of the time of this report, the scheduled funding for this study is adequate to complete the tasks required.

7. PERSONNEL

There have been no significant changes in personnel involved in this study. The primary personnel remain:

Principal Investigator - Douglas M. Pirie
Co-Investigators - David D. Steller and
Orville T. Magoon

8. WORK NEXT PERIOD

The investigators have two aircraft underflights planned for the next reporting period (1 November thru 31 December 1972). In addition to these flights and associated ground truth collection, tape and photo analysis will be performed on imagery provided by Goddard.

9. OTHER

ERTS Image Descriptor Form is attached as Inclosure 2.

CALIFORNIA COAST NEARSHORE
PROCESSES STUDY

PROGRESS REPORT TYPE I, NO. I, 31 October 1972

PROPOSAL NO. 088

DOUGLAS M. PIRIE, DE324

SIGNIFICANT RESULTS

As of the time of this report, there have been no significant results from the California Coast Nearshore Processes Study.

TYPE OF DATA OBTAINED

Quality of Data	Temperature		Waves			Wind		Current		Comments
	Air	Water	Ht.	T.	Dir.	Speed	Dir.	Speed	Dir.	
Good	X	X	X	X	X	X	X	X	X	Can gather data in Crescent City-Eureka area.
Good		X	X	X	X	X	X	X	X	Can gather data in Crescent City-Eureka area.
Good	X	X	X	X	X	X	X	X	X	Can gather data in Crescent City-Eureka area.

Two miles south of
Crescent City

Mr. Clemens
California Division
of Highways
P.O. Box 3700
Eureka, California 95501
Ph: 707-442-5761 Ex: 282

Freshwater Lagoon Beach

Mr. Clemens
California Division
of Highways
P.O. Box 3700
Eureka, California 95501
Ph: 707-442-5761 Ex: 282

Humboldt Bay

Mr. Clemens
California Division
of Highways
P. O. Box 3700
Eureka, California 95501
Ph: 707-442-5761 Ex: 282

TYPE OF DATA OBTAINED
-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Good	X	X	X	X	X				
Fair		X	X	X	X	X	X	X	
Good		X	X	X	X	X	X	X	

Humboldt Yacht Club
North of Patricks Point

California Division
of Highways
P.O. Box 3700
Eureka, California 95501
Ph: 707-442-5761 Ex: 282

Mac Kerricher State Park
Mac Kerricher State Park
Ranger (Ken Jones)
P.O. Box 24100
Mac Kerricher Road
Fort Bragg, California 95437
Ph: 707-964-3438

Salt Point State Park
Salt Park Ranger (Jeff Jones)
Salt Point State Park
25050 Coast Highway 1
Jenner, California 95450
Ph: 707-847-3221

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T.	Dir.	Speed	Dir.	Speed	Dir.
Very Good	X	X	X			X	X	X	Occasionally have access to boat.
Good		X	X	X	X			X	Can organize student to gather data.
Fair		X	X	X	X	X	X	X	Can gather data in area from Stinson to Pidgeon Point.

Bolinas Bay

Pat Cassey

Bolinas Marine Station

Bolinas, California 94924

Ph: 415-868-1771

Bolinas Bay

Professor Pat Wilde

University of California

438 Hearst Mining Building

Berkeley, California 94720

Ph: 415-642-6535

Stinson Beach

Ralph Yoshizuka

Department of Navigation &

Ocean Development

1416 Ninth Street, Room 1336-24

Sacramento, CA 95814

Ph: 916-445-8349

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature Air Water		Waves Ht. T. Dir.		Wind Speed Dir.		Current Speed Dir.		Comments
Fair			X	X	X	X	X	X	
Fair			X	X	X	X			Can gather data in area from Stinson to Pescadero Point.
Fair			X	X	X	X			Can gather data in area from Stinson to Pigeon Point.

Stinson Beach

Stinson State Park Rangers
(Henry Richards)

P.O. Box 56

Stinson Beach, California 94970

Ph: 415-868-1922

Pescadero Point

Ralph Yoshizuka

Department of Navigation &

Ocean Development

1416 Ninth Street, Room 1336-24

Sacramento, California 95814

Ph: 916-445-8349

Pigeon Point

Ralph Yoshizuka

Department of Navigation &

Ocean Development

1416 Ninth Street, Rm 1336-24

Sacramento, California 95814

Ph: 916-445-8349

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Fair		X	X	X	X	X	X	X	
Fair			X	X	X	X	X	X	Tregeiro in charge of several State Pa
Very Good		X	X	X	X	X	X	X	Much data can be obtained when research ship is working in Monterey area.
Very Good			X	X	X	X	X	X	Will gather data in Monterey area.

Capitola Beach

Ryder Ray (or Chuck Famularo)
City of Capitola
Ph: 408-475-7300

Seacliff Beach

Anton Tregeiro
State of California
Park Rangers
120 - 9th Street
Santa Cruz, California 95060
Ph: 408-475-2222

Moss Landing & Monterey Bay

Dr. Mary Silver
Moss Landing Marine Lab
Moss Landing, California 95039
Ph: 408-633-3304

Salinas River Mouth

Robert H. Bourke (or Ed Thorton)
Assistant Professor
Naval Postgraduate School
Monterey, California 93940
Ph: 408-646-2552

TYPE OF DATA OBTAINED

-Contained-

Quality of Data	Temperature		Waves		Wind		Current		Comments	
	Air	Water	Ht.	T.	Dir.	Speed	Dir.	Speed		Dir.
Very Good			X	X	X	X	X	X	X	Will gather data in Monterey Area.
										Sea temperature & possibly other oceanographic data can be obtained if research ship is in Monterey Area.
										Wave gauge charts, wind speed and direction, and sea surface temperature available.

Holiday Inn Beach
in Monterey

Robert H. Bourke (or Ed Thorton)
Assistant Professor
Naval Postgraduate School
Monterey, California 93940
Ph: 408-646-2552

Monterey Bay

Dr. Gilmartin
Hopkins Marine Station
Pacific Grove, California 93950
Ph: 408-373-0464

Del Monte Beach, Monterey

J.M. Sturgeon
District Materials Engineer
Division of Highways
District 5, P.O. Box L
San Luis Obispo, California 93401
Ph: 805-543-6000

TYPE OF DATA OBTAINED
-Continued-

Quality of Data	Temperature		Waves		Wind		Current Speed	Dir.	Comments
	Air	Water	Ht.	T.	Speed	Dir.			
Fair		X	X	X	X	X			
Fair		X	X	X	X	X			
Good		X	X	X	X	X			Interested in Morro Bay and Carmel area

Point Pinas (Pacific Grove)

Mel Odemar
California Fish & Game
Ph: 213-435-7741 Ex: 211

Carmel

Mel Odemar
California Fish & Game
Ph: 213-435-7741 Ex: 211

Mouth of Carmel River

Mr. Nighswonger
Regional Water Quality
Control Board
2238 Broad Street
San Luis Obispo, California
93401
Ph: 805-543-5671

TYPE OF DATA OBTAINED
-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Fair		X	X	X	X	X		X	Can gather data at other locations.
<p>Big Sur</p> <p>J. M. Sturgeon District Materials Engineer Division of Highways District 5, P.O. Box L San Luis Obispo, California 93401 Ph: 805-543-6000</p>									
Fair		X	X		X	X		X	Can gather data at other locations.
<p>Willow Springs</p> <p>J. M. Sturgeon District Materials Engineer Division of Highways District 5, P. O. Box L San Luis Obispo, California 93401 Ph: 805-543-6000</p>									
Fair		X	X	X	X	X			
<p>Morro Bay (Ataca Beach)</p> <p>Mr. Dunkel Morro Bay Museum of Natural History State Park Road Morro Bay, California 93442 Ph: 805-772-2694</p>									
Fair		X	X	X	X	X			
Fair		X	X		X	X		X	Can gather data at other locations in area.
<p>Morro Bay</p> <p>J.M. Sturgeon Division of Highways</p>									

TYPE OF DATA OBTAINED
- Continued-

Quality of Data	Temperature Air Water		Waves Ht. T. Dir.		Wind Speed Dir.		Current Speed Dir.		Comments
									Average outlet and inlet temperatures of Morro Bay Power Plant circulating water are available.
Good		X	X	X	X	X	X	X	
Fair		X	X	X	X	X			Can gather data at other locations in area.

Morro Bay Power Plant
Roy Hawes
Pacific Gas & Electric Company
894 Monterey Street
P.O. Box 592
San Luis Obispo, Calif. 93401
Ph: 805-772-2741

Morro Bay (Rock)
Mr. Nighswonger
Regional Water Quality Control Board
2238 Broad Street
San Luis Obispo, Calif. 93401
Ph: 805-543-5671

Pismo Beach
J. M. Sturgeon
District Material Engineer
Division of Highways
District 5, P.O. Box L
San Luis Obispo, Calif. 93401
Ph: 805-543-6000

TYPE OF DATA OBTAINED
- Continued -

Quality of Data	Temperature		Ht.	Waves		Wind Speed	Wind Dir.	Current Speed	Current Dir.	Comments
	Air	Water		T.	Dir.					
Good		X	X	X	X		X			
Fair		X	X	X	X	X	X			Can gather information in nearby area.
Fair	X	X	X			X	X		X	Can gather data at other locations in area.

Oceano, California

M.L. Vernon, Superintendent
Department of Public Works
Division of Highways
P.O. Box 335
Santa Maria, California 93456

El Capitan

LEO Data Available

Campus Point (North of
Santa Barbara Harbor)

T. Bailey
Marine Science
University of California
Santa Barbara, California
93106

Santa Barbara

J.M. Sturgeon
District Materials Engineer
Division of Highways
District 5, P.O. Box L.
San Luis Obispo, Calif. 93401
Ph: 805-543-6000

TYPE OF DATA OBTAINED
-Continued-

Quality of Data	Temperature		Waves			Wind		Current		Comments
	Air	Water	Ht.	T.	Dir.	Speed	Dir.	Speed	Dir.	
Fair		X	X	X	X	X	X	X	X	Can gather data at other locations in area.
Fair		X	X	X	X				X	
Fair		X	X	X	X				X	Can gather data in Los Angeles area.

Stern's Wharf Santa Barbara

Mr. Sturgeon

California Division of

Highways

District 5, P.O. Box L

San Luis Obispo, Calif. 93401

Ph: 805-543-6000

Capenteria

LEO Data Available

Punta Gorda

Al Palmer (or Oscar Stankov)

California Division of

Highways

550 South Vermont Avenue

Los Angeles, Calif. 90005

Ph: 213-620-3280

Oxnard

Al Palmer (or Oscar Stankov)

Division of Highways

550 South Vermont Avenue

Los Angeles, Calif. 90005

Ph: 213-620-3280

TYPE OF DATA OBTAINED
-Continued-

Quality of Data	Temperature		Waves		Wind		Current Speed	Dir.	Comments
	Air	Water	Ht.	T.	Speed	Dir.			
Good		X	X	X	X	X			Sea surface temperature in area of power plant
									Temperature data available.
									Temperature data available.

Mandalay Power Plant

Ron Strachan, Room 360
Southern California Edison
P.O. Box 800
Rosemead, California 91770
Ph: 213-572-1874

Scattergood Power Plant
Santa Monica Bay

Mike Nosanov
Los Angeles Department
of Water and Power
111 North Hope Street, Rm.1042
Los Angeles, California 90054
Ph: 213-481-5491

Haynes Power Plant

Mike Nosanov
Los Angeles Department of
Water & Power
111 North Hope St. Room 1042
Los Angeles, California 90054
Ph: 213-481-5491

-Continued-

Currently engaged in study at Dana Point. May have other coast. studies in future.

Dwight Schroeder
Boyle Engineering
P.O. Box 178
412 S. Lyon Street
Santa Ana, California 92702
Ph: 714-547-4471

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
Good		X	X	X	X	X			
							X	X	

San Clemente

LEO Data Available

Carlsbad

Fred Warn

Department of Materials

Laboratory

California Division of

Highways

4075 Taylor Street

San Diego, California 92110

Ph: 714-297-4501 Ex: 397

Central Point Loma

Ron McPeak

Kelco Company

2145 East Belt Street

San Diego, California 92113

Ph: 714-232-1011

Silver Strand

LEO Data Available

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature		Waves		Wind		Current		Comments
	Air	Water	Ht.	T. Dir.	Speed	Dir.	Speed	Dir.	
									Temperature readings of cooling water system are available.
									Temperature readings of cooling water system are available
									Temperature readings of cooling water system are available
									Temperature readings of cooling water system are available

Encina Power Plant, Carlsbad

J.F. Dietz

San Diego Gas & Electric Co.

P.O. Box 1831

San Diego, California 92112

Station B Power Plant, San

Diego Bay

J.F. Dietz

San Diego Gas & Electric Co.

P.O. Box 1831

San Diego, California 92112

Silver Gate Power Station

San Diego Bay

J.F. Dietz

San Diego Gas & Electric Co.

P.O. Box 1831

San Diego, California 92112

South Bay Power Plant

San Diego

J.F. Dietz

San Diego Gas & Electric Co.

P.O. Box 1831

San Diego, California 92112

ERTS IMAGE DESCRIPTOR FORM

(See Instructions on Back)

(i)

DATE 10-27-72

PRINCIPAL INVESTIGATOR Douglas T. Pirie

GSFC D 324

ORGANIZATION U. S. Army Corps of Engineers

NDPF USE ONLY

D _____
N _____
ID _____

PRODUCT ID (INCLUDE BAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS
	Sediment	Kelp	Clouds	
1-019-18062 M				
1-019-18064 M				
1-020-18115 M				
1-010-18121 M			X	
1-020-18124 M			X	
1-036-18010 M	X		X	Los Angeles
1-036-18012 M			X	
1-038-18020 M	X		X	
1-054-18010 M			X	
1-055-18064 4			X	Channel Islands
1-055-18064 6			X	Channel Islands
1-055-18064 7			X	Channel Islands
1-055-18071 4			X	
1-055-18071 5			X	
1-055-18071 6			X	
1-056-18120 4			X	
1-056-18120 5			X	
1-056-18120 6			X	
1-056-18124 M			X	
1-057-18170 M				
1-057-18172 M			X	Monterey
1-057-18175 M			X	

*FOR DESCRIPTORS WHICH WILL OCCUR FREQUENTLY, WRITE THE DESCRIPTOR TERMS IN THESE COLUMN HEADING SPACES NOW AND USE A CHECK (✓) MARK IN THE APPROPRIATE PRODUCT ID LINES. (FOR OTHER DESCRIPTORS, WRITE THE TERM UNDER THE DESCRIPTORS COLUMN).

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